BRYANT AVENUE CORRIDOR

5. BIN 1075310 - NEW BRYANT AVENUE PEDESTRIAN BRIDGE RAMP AND BIN 2241210 - BRYANT AVENUE BRIDGE OVER AMTRAK/CSX

5.1. GENERAL

5.1.1. THE PRIMARY ENTRANCE TO THE PEDESTRIAN BRIDGE SHALL BE RELOCATED FROM THE SIDEWALK OF BRYANT AVENUE TO THE SIDEWALK EASTBOUND BRUCKNER BOULEVARD. ADDITIONALLY, A SECONDARY ENTRANCE SHALL BE MADE VIA STAIRS FROM GRADE AT BRYANT AVENUE TO THE INTERMEDIATE LANDING ON THE SOUTH LIMIT OF THE PEDESTRIAN BRIDGE AT STA. PB 12+00.

5.1.2. THE PEDESTRIAN BRIDGE SHALL BE ADA COMPLIANT WITH MAXIMUM GRADE OF 7.5%.

5.1.3. EXISTING SPAN 1, EAST APPROACH RAMP, AND ASSOCIATED SUBSTRUCTURE ARE TO BE REMOVED AND REPLACED. REMAINING SPANS OF THE PEDESTRIAN BRIDGE ARE TO BE MAINTAINED. A TEMPORARY RAMP TO ACCOUNT FOR CHANGE IN PROFILE SHALL BE PROVIDED BETWEEN NEW RAMP AND EXISTING SPAN 2.

5.1.4. MINIMUM REQUIRED VERTICAL CLEARANCE OF NEW BRYANT AVENUE PEDESTRIAN BRIDGE RAMP OVER EXISTING AND PROPOSED ROADWAYS SHALL BE 15'-6" AND A MINIMUM VERTICAL CLEARANCE TO MEET OR EXCEED EXISTING OVER TOP OF RAIL OF EXISTING RAILROAD TRACKS SHALL BE MAINTAINED.

5.1.5. WHEN CONSTRUCTING FACILITIES ADJACENT TO OR ABOVE THE AMTRAK AND CSX RAILROAD TRACKS AND CATENARIES, REFER TO PART 3 - PROJECT REQUIREMENTS AND PART 5 - SPECIAL PROVISIONS FOR REQUIREMENTS.

5.1.6. ALL NEW PIERS SHALL BE LOCATED OUTSIDE OF THE EXISTING BRYANT AVENUE BRIDGE ABUTMENTS AND SHALL NOT REDUCE EXISTING HORIZONTAL CLEARANCE TO RIGHT-OF-WAY LIMITS OF THE RAILROADS.

5.1.7. EXISTING RETAINING WALLS ADJACENT TO RAILROAD RIGHT-OF-WAY SHALL BE PROTECTED. NO ADDITIONAL LOADING SHALL BE APPLIED TO EXISTING RETAINING WALLS.

5.1.8. FENCING CONFORMING TO AMTRAK REQUIREMENTS SHALL BE INSTALLED ON FASCIAS ADJACENT TO RAILROAD TRACKS.

5.1.9. THE DRAINAGE SYSTEM SHALL DISCHARGE RUNOFF OUTSIDE THE RAILROAD RIGHT-OF-WAY LIMITS.

5.1.10. CURB AND RAILING CONFORMING TO THE NYSDOT PEDESTRIAN BRIDGE RAILING REQUIREMENTS SHALL BE INSTALLED ON FASCIA ADJACENT TO BRYANT AVENUE AND BRUCKNER BOULEVARD, AND ON PEDESTRIAN BRIDGE RAMP.

5.1.11. AT-GRADE WORK AT BRYANT AVENUE SHALL EXTEND FROM EXISTING BRYANT AVENUE SOUTH ABUTMENT TO GARRISON AVENUE INTERSECTION AND FROM BRYANT AVENUE NORTH ABUTMENT TO EASTBOUND BRUCKNER BOULEVARD.

5.1.12. THRU-GIRDER SUPERSTRUCTURES ARE NOT PERMITTED FOR THE BRYANT AVENUE PEDESTRIAN BRIDGE.

5.1.13. REFER TO DRAWINGS GP-1 AND RP-3 FOR LIMITS OF WORK.

5.1.14. REMOVAL OF EXISTING CONCRETE DECK SHALL BE COMPLETED BY SAWCUTTING AND LIFTING THE DECK OUT IN PANELS. NO LARGE DEBRIS MAY BE DROPPED ONTO TEMPORARY PROTECTIVE SHIELDS.

5.2. BRYANT AVENUE PEDESTRIAN BRIDGE

5.2.1. THE EXISTING EAST ABUTMENT AND EXISTING PIER 1 SHALL BE DEMOLISHED. NEW SUBSTRUCTURES SHALL BE CONSTRUCTED. ALL SUBSTRUCTURES SHALL BE SUPPORTED ON DEEP FOUNDATIONS OR SHALL BE BEARING ON ROCK.

5.2.2. EXISTING PIER 1 SUBSTRUCTURE, STARTING 2 FEET BELOW EXISTING GRADE MAY BE INCORPORATED IN THE FINAL DESIGN SOLUTION. NEW PIER 2 SHALL MEET THE FOLLOWING REQUIREMENTS:

5.2.2.1. THE PIER CAP, COLUMN, AND FOUNDATION SHALL BE DESIGNED TO MEET ALL CONDITIONS OF THIS CONTRACT AND CONTRACT 3 (SEE DIRECTIVE PLANS).

5.2.2.2. THE LOAD FACTORS GIVEN IN TABLE 3.4.1-1 OF THE NYSDOT LRFD BRIDGE DESIGN SPECIFICATIONS SHALL BE MODIFIED TO ACCOUNT FOR THE UNCERTAINTIES OF CONTRACT 3. THE LOAD FACTORS SHALL EITHER BE INCREASED OR DECREASED BY 33%, WHICHEVER RESULTS IN THE CONTROLLING LOAD EFFECT. FOR EXAMPLE, THE MAXIMUM DC LOAD FACTOR SHALL BE 1.66 AND THE MINIMUM DC LOAD FACTOR SHALL BE 0.60.

5.2.2.3. FOR ANY LOAD COMBINATION THAT RESULTS IN AN UPWARD VERTICAL REACTION (I.E. UPLIFT), THE VERTICAL REACTION SHALL BE IGNORED.

5.2.2.4. THE PIER CAP WIDTH SHALL BE ADEQUATE FOR BOTH THIS CONTRACT AND INCLUDING THE CONTRACT 3 CONDITIONS NOTED IN THE DIRECTIVE PLANS.

5.2.2.5. FOR ADDITIONAL INFORMATION TO BE USED FOR THE DESIGN OF PIER 2 REFER TO DRAWING REF-03 IN THE DIRECTIVE PLANS.

5.2.3. THE EXISTING APPROACH AND EXISTING SPAN 1 SUPERSTRUCTURE SHALL BE REMOVED AND REPLACED WITH A NEW SUPERSTRUCTURE CONSISTING OF A NEW RAMP (NEW SPAN 1) AND NEW BRIDGE OVER THE RAILROAD TRACKS (NEW SPAN 2).

5.2.4. NEW APPROACH RAMP FROM EASTBOUND BRUCKNER BOULEVARD SIDEWALK TO FIRST INTERMEDIATE LANDING SHALL HAVE A CONCRETE WALKWAY SUPPORTED ON FILL.

5.2.5. ALL RELATED APPURTENANCES, INCLUDING RAILING, LIGHTING, AND SIDEWALK, SHALL BE REPLACED. PEDESTRIAN LIGHTING SHALL BE INSTALLED IN ACCORDANCE WITH NYSDOT HIGHWAY DESIGN MANUAL, SECTION 18.

5.2.6. THE PROPOSED PEDESTRIAN BRIDGE SHALL IMPOSE NO ADDITIONAL LOADING ON THE BRYANT AVENUE BRIDGE.

5.2.7. THE MINIMUM WIDTH OF THE PEDESTRIAN WALKWAY SHALL BE 10'-0". THE OUT-TO-OUT WIDTH OF THE NEW PEDESTRIAN BRIDGE AND RAMP SHALL BE A MINIMUM OF 12'-0" EACH.

5.3. BRYANT AVENUE BRIDGE

5.3.1. PORTION OF EXISTING BRYANT AVENUE BRIDGE DECK UNDER THE NEW PEDESTRIAN RAMP SHALL REMAIN. EXISTING CURB AND RAILING AT FASCIA SHALL REMAIN. EXISTING FENCING SHALL BE MODIFIED AS REQUIRED FOR THE INSTALLATION OF NEW PEDESTRIAN RAMP. A MAXIMUM GAP OF 4" SHALL BE PROVIDED BETWEEN EXISTING FENCE AND PROPOSED STRUCTURE.

5.3.2. A NEW SINGLE-SLOPE CONCRETE BARRIER SHALL BE INSTALLED ON THE SOUTHWEST SIDE OF THE BRIDGE ALONG THE NEW PEDESTRIAN RAMP. AREA UNDER PEDESTRIAN BRIDGE SHALL BE FULLY ENCLOSED WITH FENCING IN ACCORDANCE WITH NYSDOT SPECIAL SPECIFICATION 607.70206139. ACCESS GATE FOR MAINTENANCE SHALL BE PROVIDED.

5.3.3. CONCRETE DECK SHALL BE MODIFIED AS REQUIRED TO CONNECT THE EASTERN APPROACH OF THE PEDESTRIAN BRIDGE TO THE BRYANT AVENUE BRIDGE STRUCTURE.

5.3.4. BRYANT AVENUE AND BRYANT AVENUE BRIDGE SHALL BE RESTRIPED TO PROVIDE A 12'-0" MINIMUM TRAVEL LANE AND PARKING LANE TO MATCH EXISTING.

5.3.5. EXISTING COMPOSITE PAVEMENT SHALL RECEIVE MILLING AND OVERLAY FROM BRYANT AVENUE SOUTH ABUTMENT THROUGH THE GARRISON AVENUE INTERSECTION. SEE INDICATIVE PLANS FOR LIMITS.

5.3.6. CURB AND SIDEWALK SHALL BE RECONSTRUCTED ON BOTH SIDES OF BRYANT AVENUE AND BRYANT AVENUE INTERSECTIONS WITH GARRISON AVENUE AND EASTBOUND BRUCKNER BOULEVARD. ADA COMPLIANT RAMPS SHALL BE INSTALLED AT THE CROSSWALKS. CURB AND SIDEWALK MODIFICATION SHALL EXTEND A MINIMUM OF 20' FROM LIMITS OF RAMP.

5.3.7. TRAFFIC LANE STRIPING FOR LEFT TURNS AND CROSSWALK STRIPING SHALL BE INSTALLED.

D900047, HPI Contract 1
RFP Part 6 Directive Plans

PROJECT MANAGER
CHECK
DRAFTING
DESIGN
JOB MANAGER
DESIGN SUPERVISOR

FILE NAME = GN-1 thru 10.05-09-2019.dgn
DATE/TIME = 14-MAY-2019 08:49
USER = a lilley

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF WORK:

HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT
CONTRACT 1
FROM BRYANT AVE TO WESTCHESTER AVE. AND WHEELER AVE.

COUNTY: BRONX REGION: 11

PIN X731.63

BRIDGES SEE INDICATIVE DRAWING KP-1

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

DIRECTIVE NOTES

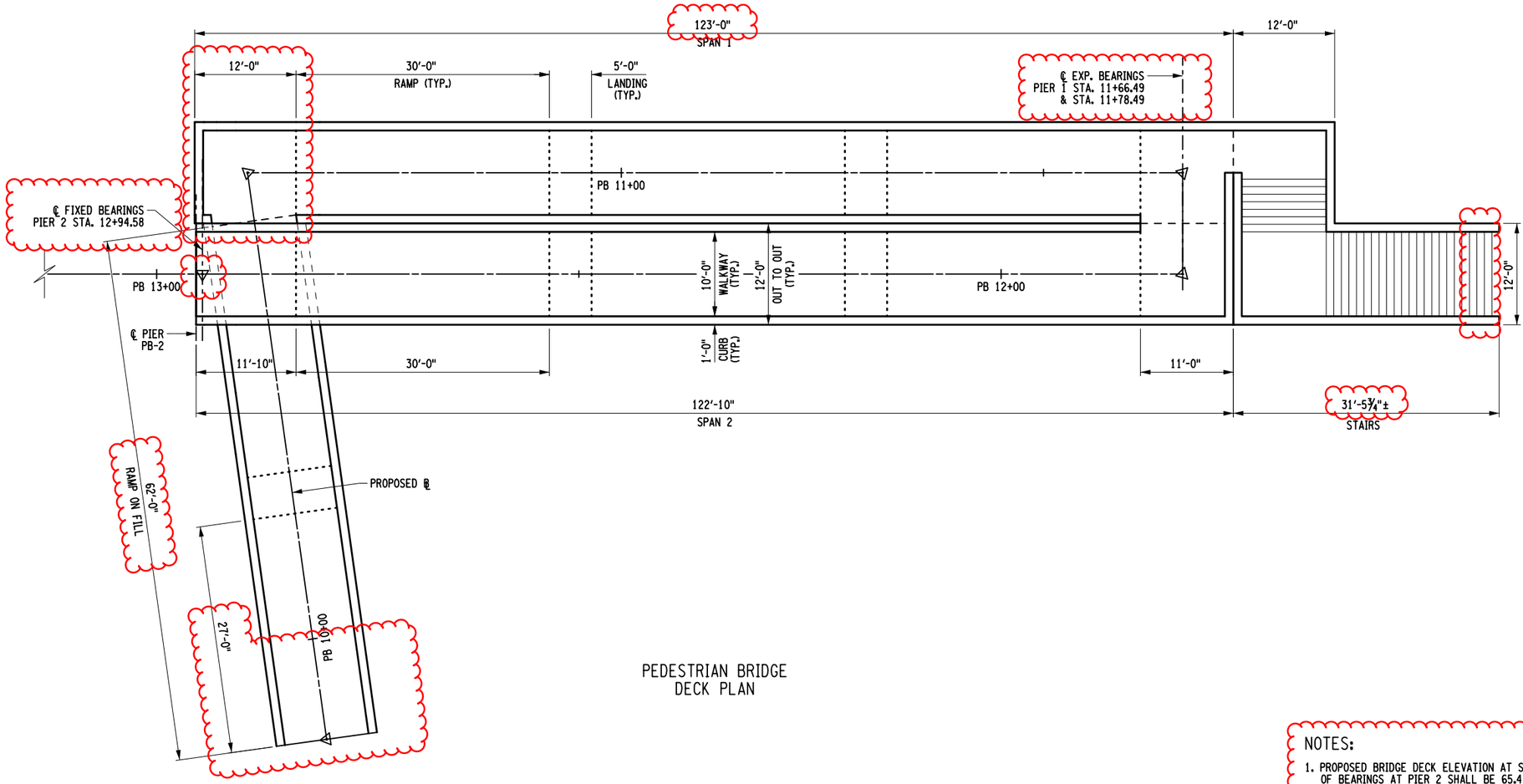
CONTRACT NUMBER D900047

DRAWING NO. GN-5

SHEET NO.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

D900047, HPI Contract 1
RFP Part 6 Directive Plans



PEDESTRIAN BRIDGE
DECK PLAN

NOTES:
1. PROPOSED BRIDGE DECK ELEVATION AT SPAN 2 CENTER LINE OF BEARINGS AT PIER 2 SHALL BE 65.41.

- RAMP ON FILL EXTENDED
- SPAN 1 SHORTENED BY 1'-4"

7.5 0 7.5 15 22.5 30'
1"=15'

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT
CONTRACT 1
FROM BRYANT AVE. TO WESTCHESTER AVE AND WHEELER AVE.
COUNTY: BRONX REGION: 11

PIN X731.63

BRIDGES
SEE DWG. NO.
KP-1

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

DIRECTIVE PLANS
BRYANT AVENUE PEDESTRIAN BRIDGE
DECK PLAN

CONTRACT NUMBER
D900047

DRAWING NO. BP-04
SHEET NO.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

DESIGN SUPERVISOR Y.NASR
JOB MANAGER S.BUTLER
DESIGN J.STUM
CHECK Y.NASR
DRAFTING J.STUM
CHECK S.BUTLER
PROJECT MANAGER N.BASTA

FILE NAME = pw://w/w/w/w/w/X731.63_Hunts Point Truck Access - Contract 1/CAD/02 Dewberry/Structural/Pedestrian Bridge/2019-01-10 Final RFP/X73163_CPB_01_SLB.DGN
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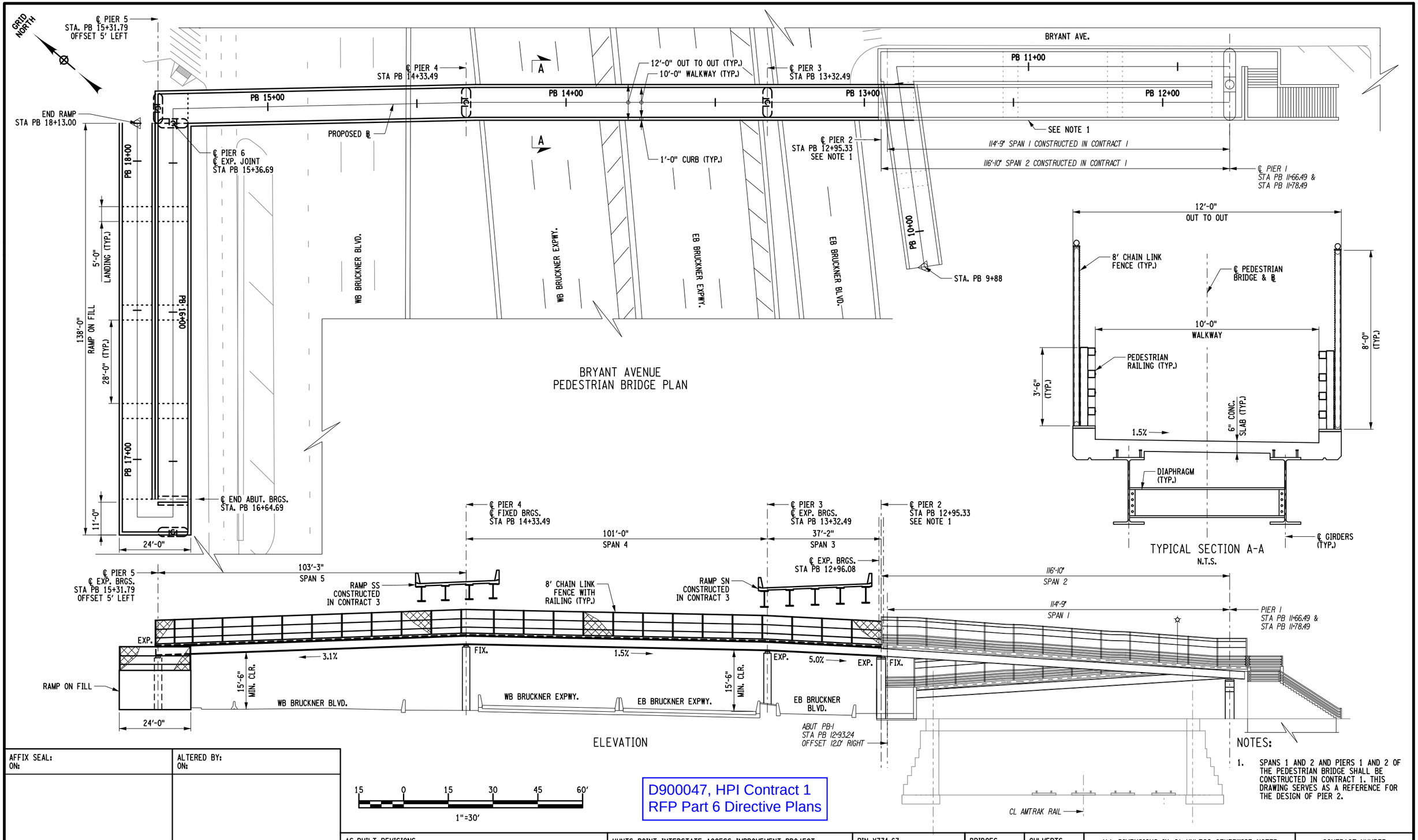

NOTES:

1. SPANS 1 AND 2 AND PIERS 1 AND 2 OF THE PEDESTRIAN BRIDGE SHALL BE CONSTRUCTED IN CONTRACT 1. THIS DRAWING SERVES AS A REFERENCE FOR THE DESIGN OF PIER 2.

D900047, HPI Contract 1
RFP Part 6 Directive Plans

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT
CONTRACT 1
FROM BRYANT AVE. TO WESTCHESTER AVE AND WHEELER AVE.
COUNTY: BRONX REGION: 11

PIN X731.63

BRIDGES SEE DWG. NO. KP-1

CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

REFERENCE PLANS
BRYANT AVENUE PEDESTRIAN BRIDGE
GENERAL PLAN, TYPICAL SECTION, AND ELEVATION
DIRECTIVE PLANS

CONTRACT NUMBER
D900047

DRAWING NO. REF-03
SHEET NO.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

- The new structure will be designed and constructed to allow 15'-6" minimum vertical clearance for the pedestrian bridge over the Bruckner Expressway which is expected to be reconstructed in Contract 3. The minimum vertical clearance over top of rail of existing railroad tracks will be 34'-6".
- Existing Span 1, East Approach Ramp, and associated substructure are to be removed and replaced. Remaining spans of the Pedestrian Bridge are to be maintained. A Temporary Ramp to account for change in profile shall be provided between New Ramp and Existing Span 2.
  - New Pier 2 shall meet the following requirements:
    - The pier cap, column, and foundation shall be designed to meet all conditions of this Contract and Contract 3 as shown on the Directive Plans.
    - The load factors given in Table 3.4.1-1 of the NYSDOT LRFD Bridge Design Specifications shall be modified to account for the uncertainties of Contract 3. The load factors shall either be increased or decreased by 33%, whichever results in the controlling load effect. For example, the maximum DC load factor shall be 1.66 and the minimum DC load factor shall be 0.60.
    - For any load combination that results in an upward vertical reaction (i.e. uplift), the vertical reaction shall be ignored.
    - The pier cap width shall be adequate for both this Contract and including the Contract 3 conditions noted in the Directive Plans.
    - Pier 2 shall be designed to accommodate the future replacement of Bryant Ave. Pedestrian Bridge over Bruckner as per Drawing REF-03 in the Directive Plans.
  - **Live Loads (for BIN 1075310)**
    - Pedestrian Live Load = 90 PSF in accordance with AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges, Section 3.1.
    - Maintenance Vehicle: not considered. Due to geometry constraint, H5 will not be able to access the spans.
  - **Seismic Loads**
    - Seismic analysis will be in accordance with AASHTO LRFD 3.10.
    - Seismic analysis will be based on Response Spectrum Analysis (RSA) for 1000-year return period.
    - Seismic Soil Classification: Class D
  - **Foundations:** Based on results obtained from FB-MultiPier, proposed piles will be designed structurally and geotechnically in accordance with corresponding provisions in the NYSDOT LRFD Bridge Design Specifications (Blue Pages) and the NYSDOT Geotechnical Design Manual.

    Micropiles will be structurally checked for axial loading per AASHTO LRFD Bridge Design Specification Section 10.9. Combined axial and bending will be checked using the software Cross Section Analysis and Design by Engissol, which considers the composite section capacity. In accordance with FHWA provisions for micropiles, 50% reduction of the intact casing wall thickness will be considered for bending and tension calculations. Resistance factors for structural design will be applied in accordance with AASHTO Table 10.5.5.2.5-2.

    The design of new micropiles will consider the effect of corrosion and deterioration from environmental conditions. In accordance with NYSDOT Geotechnical Design Manual and FHWA recommendations, the design will assume a 1/16" thick loss of the permanent steel casing. Per FHWA Micropile Design and Construction Manual Section 5.14.3.3, Table 5-6, in addition to the omission of casing for tension capacity as noted in Section 9.1, the top of the core threadbar will be epoxy-coated or galvanized to a minimum of 5 feet into the casing.

    The geotechnical capacity of a micropile will be derived from side friction (bond) along the length of the rock socket. Resistance factors per AASHTO Table 10.5.5.2.5.1 will be applied to factored design loads.

    Micropiles will be in accordance with NYSDOT Special Specification 551.99460017.